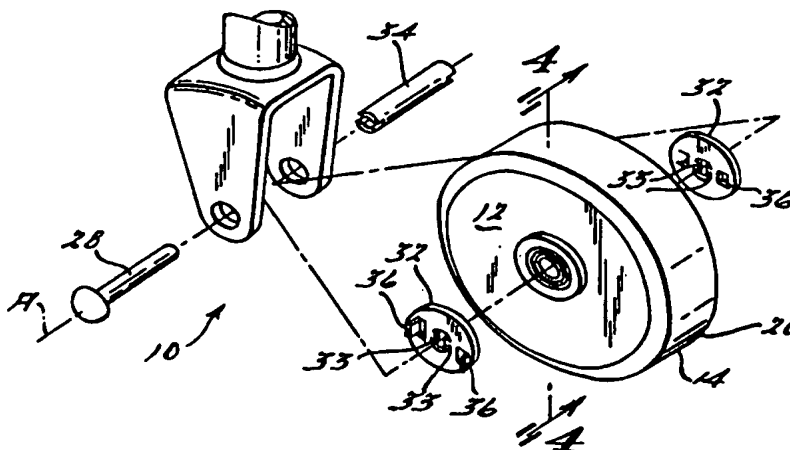


**PCT**WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b> <b>B60R 25/10</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 98/34819</b> <b>(43) International Publication Date:</b> 13 August 1998 (13.08.98)
<b>(21) International Application Number:</b> PCT/US98/02043 <b>(22) International Filing Date:</b> 4 February 1998 (04.02.98) <b>(30) Priority Data:</b> 60/037,699 7 February 1997 (07.02.97) US <b>(71) Applicant (for all designated States except US):</b> LACE EFFECT, LLC. [US/US]; 5561 Engineer Drive, Huntington Beach, CA 92649 (US). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> LACE, Jeffrey, J. [US/US]; 17151 Frimil Lane, Huntington Beach, CA 92649 (US). DURBAN, Jack [US/US]; 27061 Tossamar Street, Mission Viejo, CA 92692 (US). <b>(74) Agent:</b> BLISS, Daniel, H.; Bliss McGlynn, P.C., Suite 600, 2075 W. Big Beaver Road, Troy, MI 48084 (US).		<b>(81) Designated States:</b> CA, MX, US, Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

**(54) Title:** ANTI-THEFT VEHICLE SYSTEM**(57) Abstract**

An anti-theft vehicle system for a vehicle wheel (12) having a rotational axis including a signal generator to generate a first predetermined signal around a first predetermined perimeter and to generate a second predetermined signal around a second predetermined perimeter at least partially disposed within the first predetermined perimeter, at least one inhibitor disposed within the vehicle wheel (12) to selectively engage and disengage the vehicle wheel (12) to resist and allow rotational movement of the vehicle wheel (12) about the rotational axis, a rotatable structure disposed within the vehicle wheel (12) and cooperating with the at least one inhibitor for moving the at least one inhibitor between an engaged position and a disengaged position with respect to the vehicle wheel (12), and a receiver mounted within the vehicle wheel (12) to receive the first predetermined signal and second predetermined signal to activate the rotatable structure to move the at least one inhibitor between the engaged position and the disengaged position.

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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/02043

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :B60R 25/10

US CL :340/426, 539, 568; 318/379, 375; 280/33.994; 188/111

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 340/426, 539, 568; 318/379, 375; 280/33.994; 188/111; 70/225, 253, 257, 279

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS, IPSS

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,598,144 A (LACE) 28 January 1997, col. 3, lines 1-20, col. 4, lines 33-56.	1-20
Y	US 5,357,182 A (WOLFE et al.) 18 October 1994, col. 5, lines 32-68, col. 6, lines 1-18, lines 51-68, Figure 1A.	1-7, 10, 13-18
Y	US 5,576,691 A (COAKLEY et al.) 19 November 1996, col. 38-55.	8-9
Y,P	US 5,677,665 A (AMANO et al.) 14 October 1997, col. 2, lines 25-31.	11 and 19
Y	US 5,194,844 A (ZELDA) 16 March 1993, col. 8, lines 41-51.	12 and 20



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

24 APRIL 1998

Date of mailing of the international search report

23 JUN 1998

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

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Authorized officer

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## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

REC'D 13 JUL 1999

WIPO PCT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 1201.18022	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US98/02043	International filing date (day/month/year) 04 FEBRUARY 1998	Priority date (day/month/year) 07 FEBRUARY 1997
International Patent Classification (IPC) or national classification and IPC IPC(6): B60R 25/10 and US Cl.: 340/426, 539, 568; 318/379, 375; 280/33.994; 188/111		
Applicant LACE EFFECT, LLC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 0 sheets.

## 3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  24 AUGUST 1998	Date of completion of this report  04 JUNE 1999
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  JEFFERY A. HODGES <i>James R. Matthews</i>
Facsimile No. (703) 305-3230	Telephone No. (703) 305-4717

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/02043

**I. Basis of the report**

1. This report has been drawn on the basis of *(Substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments):*

- ☒ the international application as originally filed.
- ☒ the description, pages 1-21 , as originally filed.  
pages NONE , filed with the demand.  
pages NONE , filed with the letter of \_\_\_\_\_.  
pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_.
- ☒ the claims, Nos. 1-20 , as originally filed.  
Nos. NONE , as amended under Article 19.  
Nos. NONE , filed with the demand.  
Nos. NONE , filed with the letter of \_\_\_\_\_.  
Nos. \_\_\_\_\_ , filed with the letter of \_\_\_\_\_.
- ☒ the drawings, sheets/~~fig~~ 1-6 , as originally filed.  
sheets/~~fig~~ NONE , filed with the demand.  
sheets/~~fig~~ NONE , filed with the letter of \_\_\_\_\_.  
sheets/~~fig~~ \_\_\_\_\_ , filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE .
- ☒ the claims, Nos. NONE .
- ☒ the drawings, sheets/~~fig~~ NONE .

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the ~~Supplemental Box~~ Additional observations below (Rule 70.2(c)).

4. Additional observations, if necessary:

NONE

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/02043

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims	<u>1-20</u>	YES
	Claims	<u>NONE</u>	NO
Inventive Step (IS)	Claims	<u>NONE</u>	YES
	Claims	<u>1-20</u>	NO
Industrial Applicability (IA)	Claims	<u>1-20</u>	YES
	Claims	<u>NONE</u>	NO

**2. CITATIONS AND EXPLANATIONS**

Claims 1-20 meets the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest an anti-theft system having a signal generator to generate a first predetermined signal around a first predetermined perimeter and to generate a second predetermined signal around a second perimeter at least partially disposed within the first predetermined parameter; and a receiver mounted within the vehicle wheel to receive the first predetermined signal and second predetermined signal to activate the rotatable structure to move at least one inhibitor between the engaged position and the disengaged position.

----- NEW CITATIONS -----  
NONE




# PATENT COOPERATION TREATY

**PCT****NOTIFICATION OF ELECTION**

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

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(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

**Date of mailing** (day/month/year)  
22 September 1998 (22.09.98)

**International application No.**  
PCT/US98/02043

**Applicant's or agent's file reference**  
1201.00022

**International filing date** (day/month/year)  
04 February 1998 (04.02.98)

**Priority date** (day/month/year)  
07 February 1997 (07.02.97)

**Applicant**

LACE, Jeffrey, J. et al

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
24 August 1998 (24.08.98)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

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